

White dwarfs in the Javalambre Photometric Local Universe Survey



Carlos López-Sanjuan
J. Varela, H. Vázquez Ramió, P. -E. Tremblay, J. M. Carrasco
A. Ederoclite, A. Marín-Franch, A. J. Cenarro,
and the J-PLUS collaboration



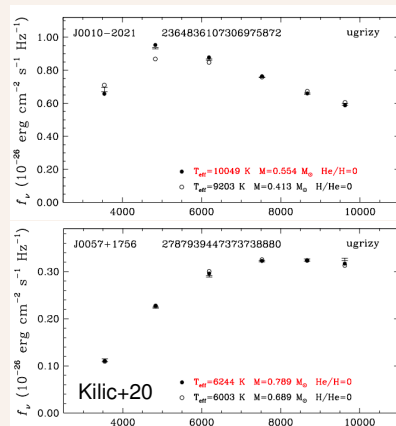
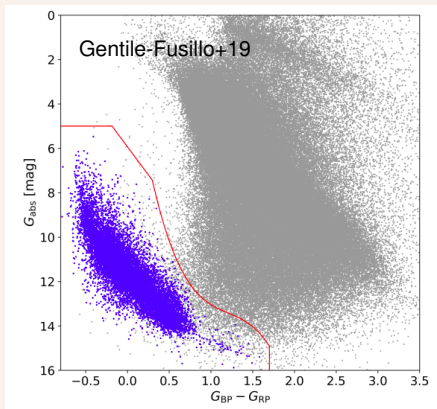
Centro de Estudio de Física del Cosmos de Aragón

SEA XIV.0 Reunión Científica / 14th July 2020

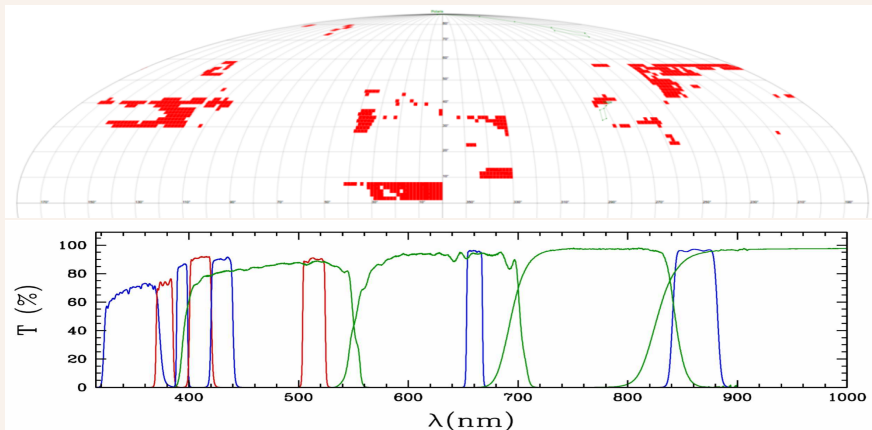
Funding agencies :



White dwarfs (WDs) in the *Gaia* era



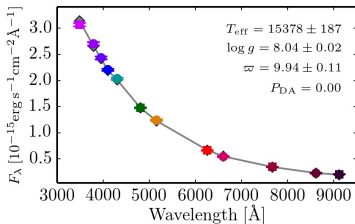
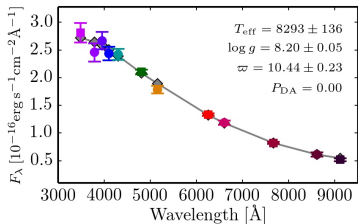
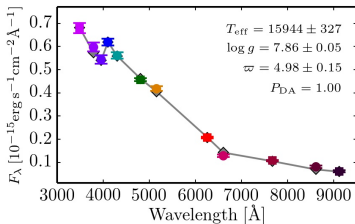
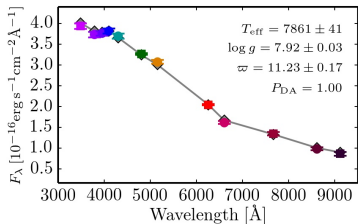
~ 260 000 WD candidates from *Gaia* DR2 (Gentile-Fusillo+19; GF19)
 Broad bands (*ugrizy*) to derive physical properties (GF19, Bergeron+19)
Narrow-band photometry will improve the parameters estimation



J-PLUS DR1 (Cenarro+19) : 1 022 deg² in 12 optical bands
www.j-plus.es/datareleases/data_release_dr1

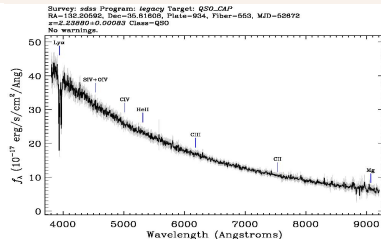
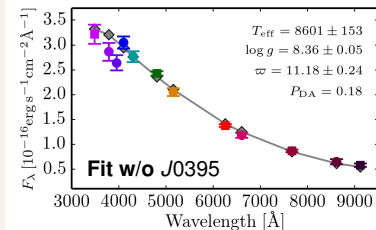
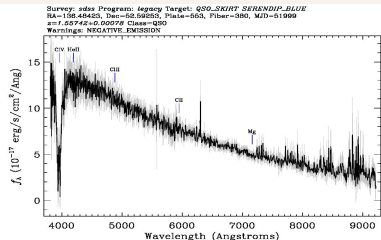
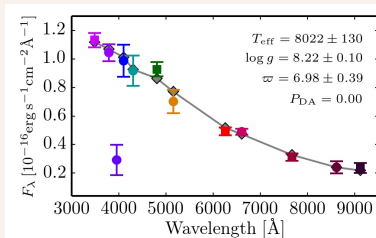
There are 2 300 WDs from GF19 with $r \leq 19.5$ in DR1

Atmospherical parameters and classification



Bayesian SED-fitting : T_{eff} , $\log g$, parallax (ϖ), and DA probability (P_{DA})
 WD models : Tremblay+13 (DA) and Cukanovaite+18 (DB+DC)
DA vs. DB+DC improvement at $T_{\text{eff}} \lesssim 10$ kK with respect to SDSS

Calcium DZ candidates



The J0395 filter is sensitive to Ca absorption

Summary

White dwarfs in J-PLUS

Absolute colour calibration

López-Sanjuan+19c

Atmospherical parameters

DA / DB + DC classification

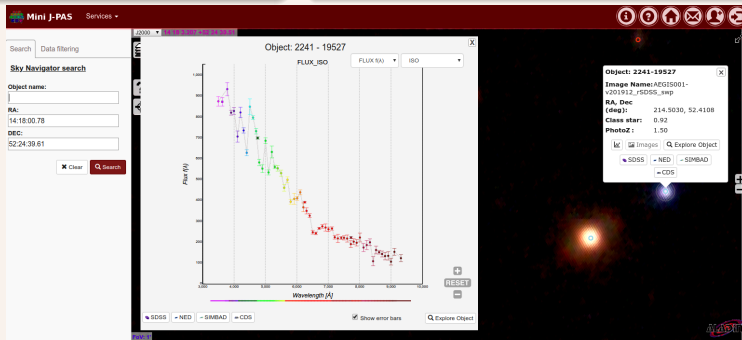
DZ candidates

DR2 : $> 2\,000\text{ deg}^2$ in October 2020

$\sim 4\,600$ WDs from GF19

Extra fun with J-PAS!

https://j-pas.org/datareleases/minijsas_public_data_release_pdr201912



Copyright © 2016-2019, Astronomical Physics of the Accelerating Universe Astrophysical Survey. All Rights Reserved. - How to cite MINIJ-PAS-PDR201912 - Acknowledgements - v1.19